

B E T T E R L A W N - - H A R V E S T S

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MAGAZINE STORIES THIS QUARTER

During the quarter, these stories have been prepared, published or reprinted for distribution:

Avant Gardener	-- "Grass Plotting"
Changing Times	-- "Improved Grasses for the Lawn"
Club Management	-- "Lawngress Fallout - A Boon to Clubs"
Com. & Suburban	-- Various stories for their newsletter
Press Society	
Crops & Soils	-- "New Challenges & Opportunities face the Lawn- Seed Industry"
Edison Garden News	-- Various stories for their newsletter
Family Handyman	-- "Now is the Time to Get Your Lawn into Shape"
Flower & Garden	-- "Patch Your Lawn Profitably"
The Gardener	-- "High Fever over Cool Lawns"
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Horticulture	-- "Rally 'Round the Ryegrasses"
House & Garden	-- Garden Guide: "The New Lawngress Explosion"
Mass. Turfgrass Conf.	-- "Perspectives on Lawn Making and Keeping"
Park Maintenance	-- "New Lawngresses Can Aid in Turf Maintenance"
Resort Management	-- "Lawns at the Ready"
Seed World	-- "Nature's Turf Triumphs"
Seed World	-- "Perennial Ryegrasses Make Their Mark"

VARIETY REVIEW BOARD ACTIVE

The current Variety Review Board, under the Chairmanship of Doyle Jacklin, has been quite active during the quarter. Emerald creeping bentgrass was approved by the Board, and in various stages of documentation and formal approval are Majestic and Glade Kentucky bluegrasses, Koket Chewings fescue. A considerable burden falls upon the chairman of the Variety Review Board, and we are most grateful to Mr. Jacklin for copying the voluminous documentation needed and circulating this for consideration of the members. Members of the VRB, in addition to Mr. Jacklin, are Howard Kaerwer and Dr. Pepin, technical; Robert Russell, commercial. President Osburn and Director Schery serve "ex officio" as advisors.

"INVOICES" MAILED

Following the decision made at the Annual Meeting at Atlanta, "invoice" reminders to Institute sponsors, designed by Secretary-Treasurer Russell, were printed and mailed from the Marysville office in July. We are most grateful for this fine innovation by Mr. Russell, which, with one or two exceptions, served its purpose admirably in alerting supporting groups of "advance minimums" due at the beginning of the fiscal year. Quarterly reminders of the contributory status are being mailed to all sponsors at the end of the third calendar quarter.

CLIP SHEET PLANS ADVANCED

At the Annual Meeting it was decided that the Institute would assume direct responsibility for participation in the annual spring Supplement issued through William Pflaum in behalf of several associations. In past years the Institute did prepare text and illustrations for this Supplement, but acted through the intermediary of the American Seed Trade Association. For 1974 the garden seed group decided to emphasize its own clip sheet instead, but the Lawn and Turfgrass Division of ASTA wished to continue the highly successful joint venture with other associations. The Institute, under the leadership of President Osburn and Secretary Russell, agreed to assume responsibility for the seed trade share of the Supplement, providing expanded coverage for lawn and grass seeding. Partial financial support was promised by the Lawn and Turfgrass Division of ASTA.

BOOKLET STUDIED, TABLED

The suggestion made by Alan Hick at the Annual Meeting, for consideration of an attractive Lawn Institute booklet in color, patterned somewhat after that which has been successful with the Alfalfa Council, has been followed up. Copies of the Alfalfa Council publication were obtained and distributed to the Executive Committee for examination. This proved indeed an attractive publication, with excellent color photography. However, its negative approach in depicting diseases and ills is more meaningful for an agricultural cash crop (where the emphasis is upon yield, and professional care is anticipated), than it would be for home lawns (where grass is more an esthetic than a financial consideration, and where skilled management is seldom in evidence). It was felt that even if the Institute might, at considerable difficulty and expense, obtain good photographs depicting lawn diseases, that little could be accomplished for a homeowner thereby (who already has available advisories beyond his ability to assimilate). Moreover, knowledge about lawn diseases and their handling is in a state of flux, the ecological considerations highly involved; to recite all the possible ills which might befall the lawn would seem more likely to have a depressing effect upon a potential lawnmaker than act as an encouragement for the purchase of quality seed. For these and other reasons the project was tabled for the time being, the thinking being that expenditures for such a booklet (with questionable market volume) might be better devoted to proven Institute activities.

ITEM IN SEED WORLD

"Modern Lawn Fescues," from Institute sources, appeared in the September issue of Seed World.

COMMITTEE MEETING PLANNED WITH USDA

In an effort to stimulate an informational program under the "umbrella" of the USDA, along the lines of the now discontinued "Lawn and Garden Week," Miss Doris Watson, for the American Horticultural Society, has organized a committee which will meet with appropriate USDA personnel in Washington, D.C. on October 11. Miss Watson has invited Dr. Schery to serve on this committee along with J. Robert Stiffler, Wayne Dickson, T. L. Heneger, Derek Fell, Richard Morey, George Seferovich, and Jim Pursell. Doris Watson is to be commended on her diligent effort to organize this program.

EDITORIAL SERVICES FOR TURFGRASS PUBLICATIONS

During the quarter two manuscripts were sent to Dr. Schery for review prior to acceptance and editing for appearance in the Proceedings of the Second International Turfgrass Conference, and in Crop Science. We are pleased to be able to lend a hand to Dr. Watson (Toro) in undertaking a rewriting of a foreign paper for the Proceedings, and to lend Institute perspective to Dr. Eliot Roberts (serving as a Crop Science editor).

IN THE AVANT GARDENER

Horticultural Data Processors, New York, recently forwarded a complimentary copy of Vol. 5, No. 12 of the Avant Gardener, in which lawn information credited to the Institute was a feature. The item was compiled from various Institute releases, and recommended many cultivars by name. "Mixtures of Fylking, Pennstar and Nugget - - -," "Arboretum Kentucky bluegrass from Missouri - - -," "The Rolls Royce of lawngrass, velvet bent, - - - the new Kingstown - - -," "Turf fertilized with gradual release nitrogen suffers less build up of thatch - - -," "Fast-sprouting perennial ryegrasses such as Compas, Manhattan, NK-100, NK-200, Pelo or Pennfine - - -," etc.

IN EDISON GARDEN NEWS

We are very pleased that each year Editor Jecmen sends us sample copies of his Edison Garden News, distributed in the Chicago area by the Commonwealth Edison Garden Club.

The winter issue gave the Institute's name and address and an offer of free reprints upon receipt of self-addressed, stamped envelope. Varieties are cited by name in the story, "Lawn Weeds a Symptom, Not the Cause."

In the summer issue several Institute articles are spaced through the publication, the first dealing with lawn making, another with recitation of the new bluegrass cultivars ("New Bluegrasses for Lawns"), and a third covering hot weather lawn care.

CHANGING TIMES REPRINT DISTRIBUTED

During the quarter the story from Changing Times, "Improved Grasses for the Lawn," has been reprinted and distributed to the members. It will be recalled that this article was staff-written from information supplied through the Lawn Institute, and gives full credit to the Institute.

STORY FOR CLUB MANAGEMENT

The story "Lawn Grass Fallout - A Boon to Clubs" was prepared for Club Management magazine, one of the special publications serving golf courses and clubs. The story is expected later in autumn. It discusses the new turfgrass varieties that should make a good turf easier to have around the clubhouse as well as on the fairway and green. The uniqueness of the new turf-type perennial ryegrasses is discussed, as well as the excellent bentgrasses for golf courses.

REPRINT MAILED

During the quarter the story, "New Challenges & Opportunities Face the Lawn Seed Industry" from Crops & Soils magazine, was reprinted and mailed to members, as well as being used as an envelope stuffer in technical correspondence. This is a follow-up to an earlier story in the same magazine entitled, "The Lawn Seed Industry Comes of Age." Crops & Soils is the "popular" publication of the American Society of Agronomy, and is read mainly by agricultural and technical people.

The story dwells upon changes from the "cheap" lawn seed mixtures of yesteryear, and discusses the specialization now so much a part of the lawn-seed industry: "The 1970's is the decade of the tailored lawn cultivar - - -." Illustrations include a field scene in Oregon, and close-ups of new cultivars Pennfine and Manhattan ryegrasses contrasted with common, Holfior and Highland colonial bentgrasses.

FAMILY HANDYMAN STORY

"Now is the Time to Get Your Lawn into Shape" is the title given a timely autumn story prepared by the Institute for the Family Handyman, in the September issue. The story was reprinted and has been circulated to the membership.

The Institute's favorite grasses are mentioned in the opening sentence, and the reasons for planting them in autumn are detailed. Renovation is discussed, along with mechanical means for accomplishing lawn bolstering. The importance of fertilization is pointed out, with a final admonition "even better is to use gradual-release nitrogen sources such as Nitroform, which do not contain soluble salts which might 'burn' sprouting grass."

PARK MAINTENANCE STORY APPEARS

"New Lawngrasses Can Aid in Turf Maintenance" appeared in the July Park Maintenance, an issue devoted to research reviews (Turf Research and Irrigation Annual). The Institute story dwelt upon the advances made by new turfgrass cultivars; a picture on the opening page contrasted the lanky growth of common bluegrass compared to four of the new, low-growing cultivars. The second page carried pictures of Holfior and Highland bentgrass, and a boxed insert entitled "Modern Cultivars" (giving VRB listings with thumbnail sketches). In the opening paragraph the story states, "All the named grasses have advantages, and whichever are included in a seed mixture, improvement over old-fashioned 'turf' should result." Reprints have been circulated.

STORY FOR FLOWER AND GARDEN

A fairly short story, "Patch Your Lawn Profitably", has been prepared for Flower and Garden magazine, to appear in a spring issue. Three photographs taken on the Institute grounds are the mainstay, depicting the planting and quick emergence of improved perennial ryegrass. Current Variety Review Board acceptances of ryegrasses are listed, along with bluegrasses and fine fescues considered suitable companions for the ryegrass. Long-lasting ureaform nitrogen is recommended for repair seedings.

"HIGH FEVER ---" STORY APPEARS

We were pleased to have "High Fever over Cool Lawns" in the September-October issue of The Gardener (the official publication of The Men's Garden Clubs of America). Accompanying the article is a tabular insert entitled, "Modern Lawngrass Cultivars," which lists all of the varieties receiving acceptance by the Variety Review Board, and a thumbnail sketch of each species.

On the carry-over page a second title reads, "Lawn Tending Can Be Gratifying Exercise," a good thought but not contributing to unification of the story. An illustration is entitled, "Typical Modern-Day Cultivars," with a caption reading, "Note how much lower growing is the recent fescue (James-town) compared to the standard (Pennlawn) and how similar to a fine bluegrass (Fylking) is a modern turf-type perennial ryegrass (Pennfine)."

The article as a whole summarized the advantages that come from new cultivars, viz. "A new variety is hardly worth launching unless it, like Merion, has special merit." Lawn care is epitomized, and options for replanting or renovation are discussed.

Special emphasis is given fertilization, an aid to weed control. As to fertilizer, "I especially like the slow-release lawn fertilizers, most of them deriving nitrogen from ureaform (UF; e.g. "BlueChip" Nitroform). These non-burning fertilizers are appropriate for warm weather - - -."

STORY IN HORTICULTURE MAGAZINE

We were pleased to have "Lawngrasses for Special Places and Purposes" appear in the September issue of Horticulture magazine. While this story is a follow-up of an earlier one emphasizing new lawngrass varieties, and deals especially with "off-beat" kinds of grass for special purposes, the story aroused surprising interest from readers. Within a few days after publication several letters and telephone calls were received at the Institute. The story was inexpensively reprinted (leaving out the pictures the magazine carried), and has been distributed.

STORY FOR GOLFDOM MAGAZINE

A story indicating the promise that seems to lie ahead for Emerald creeping bentgrass was prepared for Golfdom magazine, at the suggestion of the agency representing an Institute member. Emerald has recently received acceptance by the Institute's Variety Review Board.

REVIEW OF NEW VARIETIES PLANNED

The new lawngrass varieties will be reviewed by Dr. Schery for House & Garden's Garden Guide, an adjunct to the magazine issued in spring. The Guide deals with all types of garden plants, and seeks a "what's new" flavor.

SPRING LAWN STORY READIED

At the request of Resort Management magazine, a story tentatively entitled, "Lawns at the Ready" has been prepared and made available to the magazine. This will appear in late winter or early spring, as a complete review of "things to do" at that time of year. Charts listing varieties accepted by the Institute's Variety Review Board are included, for the major grass species, and several illustrations. This story should help arouse interest among resort property owners, in improving turf through the use of modern varieties and products.

PRESS SERVICE SUPPLIED

A series of "filler" items was prepared for "Community and Suburban Press Service," upon request of managing editor Mike Bennett. An explanation of rising seed costs, and the advantages of new varieties, were stressed.

INSTITUTE WRITE-UPS IN SEED WORLD

We are pleased that the August issue of Seed World carried two Institute stories, "Nature's Turf Triumphs," and "Perennial Ryegrasses Make Their Mark." Both are given author identification and Institute credit.

The former singles out Nugget bluegrass, Jamestown fescue, and Highland bentgrass as particular cases of nature's excellent selection work. The new turf-type perennial ryegrasses (with mention of Compas, Manhattan, NK-100, NK-200, Pelo and Pennfine) are discussed in the second story.

SLIDE MONOGRAPH PROGRESS

Efforts are still underway by Section C-5 of the Crop Science Society of America (Agronomy Society), to prepare a "turfgrass slide monograph" with accompanying text for use as a teaching aid (particularly of a vocational nature). Dr. Schery had been asked to serve as senior author for the chapter on Lawn Maintenance. Compilation of this monograph has been proceeding slowly, partly because of uncertainties about the Agronomy Society being able to bear anticipated costs. Correspondence continues with Wayne Morgan, coordinator of the project, and verbal communications were held with agronomists attending the Second International Turfgrass Conference.

OHIO SEED DEALERS

Sheffield Hyde, president of the Ohio Seed Dealers Association, has invited the Institute to discuss its activities before the annual meeting of the Ohio Seed Dealers in Columbus, November 19. It is good to have this recognition from the Association.

ENCLOSED GOLF COURSE?

An inquiry from Dr. Robert Ross, Vice President, Engineering, Environmental Structures, Inc., queried about growing grass under the new air-supported buildings pioneered by Goodyear. One such facility is used for rose growing. Now a client has the idea of enclosing an entire golf course for year-around play, if grass can "take it" under such intense use. Our reply to Dr. Ross expressed some doubt, particularly on practical grounds, but it will be interesting to see if anything comes of the experiment.

TURFGRASS CONFERENCE REPRINT DISTRIBUTED

Dr. Schery's presentation to the Massachusetts Turfgrass Conference, which appeared in the Proceedings under the title "Perspective on Lawn Making and Keeping," was reprinted and circulated to members during the quarter. This has proved useful in developing presentations to other groups as well, such as the "Morning Exchange" TV program in Cleveland, the Parks Maintenance "Seminar" in Memphis, and a presentation to the Ohio Seed Dealers Association in Columbus.

MEN'S GARDEN CLUBS ADVISED

Garden Notes, from the Men's Garden Clubs of America, carried an item utilizing Institute source materials entitled, "Lawnseed Keeps Well." Label assurances are mentioned, and the statement made: "At the Lawn Institute, Marysville, Ohio, Highland bentgrass was held for years and still found able to make a good stand." The advantage of good seed for weed control is then elaborated upon. Other advisories in the book also derive from Institute materials.

TV APPEARANCE

The Institute enjoyed very successful exposure in the Cleveland area, through appearance of Dr. Schery on the NEWS TV "Morning Exchange" program, said to be the largest such local program in the country. Listeners are invited to submit questions by telephone, and the switchboard was thoroughly jammed within the first few minutes of the presentation. Full credit was given the Institute and its publications, and Dr. Schery emphasized the role new turfgrass varieties are playing in development of more effective lawns. Colored slides were broadcast as visuals, explained by Dr. Schery as they appeared on the screen.

FYLKING CHOSEN

Western Landscaping News, August, noted that Fylking Kentucky bluegrass has been chosen the "official grass" for planting the multi-acre site for the October, 1974 World Fair in Spokane, Washington. The environment is the theme for this fair, excellent for displaying the virtues of Fylking and other lawngrasses.

NATIONAL ACADEMY OF SCIENCE ASKS

An inquiry received from the National Academy of Sciences requested Institute opinion on a number of fundamental questions relating primarily to pesticides. This provided an excellent opportunity to go on record against overly restrictive controls that have been surfacing in recent years, and to comment upon cumbersome and expensive requirements such as OSHA. The inquiry asked for as lengthy a review as Dr. Schery felt able to provide, and preferred that it be a broad, of general significance. This is part of an effort by the National Academy of Sciences to solicit viewpoints concerning issues currently before a study committee of the Academy. As you are undoubtedly aware, the National Academy of Science is by act of Congress "an official advisor to the Federal Government on any questions of science and technology."

The current study on pests involves a wide range of interests, including agricultural, biological, and medical and social. In addition to "a very open-ended invitation to submit for our committee's consideration any and all statements," staff officer Perkins listed 13 items of particular concern to the study committee. These dealt with types of pests (important to organizations queried), resistance to pesticides, biological changes due to pesticide use, toxicity, occupational hazards, safety, EPA restrictions, need for new pesticides, present or potential problems (especially as they may involve state or federal regulations), research needed, and suggestion for law changes.

Dr. Schery listed for the Academy the particular pests affecting lawns, instances of their developing resistance to pesticides, the headache OSHA has been for many small operations, the need for a continuing stream of effective pesticides, and the confusion that over-restrictive legislation causes. He concluded, "it appears that official opprobrium has reached such a degree of intensity that it is becoming restrictive to the development of new, improved products, and contributing to the greater costliness of useful products even though the presumed hazards - - - are not serious - - -."

TURF TEACHING TREND

The trend towards vocational teaching about lawn and turfgrass seems continuing. A recent announcement from Clark Technical College, Springfield, Ohio, is typical. Thirty-six hours of instruction by the continuing educational department will be offered beginning January, 1974, in both Turf Management for Golf Course Employees and Commercial Lawn Service Turf Seminar. In each case the practicalities of mowing, watering, fertilization, chemical applications, and so on, will be covered. This would seem to be an area where Institute releases might fit well.

PARK MAINTENANCE NEWS RELEASE

"The Third Annual National Institute on Park and Grounds Maintenance will be held November 5-8, 1973 at the new high rise Rivermont Holiday Inn in Memphis, Tennessee. The conference, which will attract hundreds of top administrators in the park, golf course, campus, cemetery and institutional field, is sponsored by PARK MAINTENANCE magazine.

Among the nationally known authorities who will be on the program are: Dr. Robert W. Schery, Director of the Lawn Institute and a noted authority on turf who will speak on the new varieties of grass most suitable to heavy use areas in parks, campuses and other similar areas; - - - "

PRESS KITS FOR RADIO-TV

A small percentage of our seasonal press kits is mailed to radio-TV stations rather than exclusively to newspaper editors and garden writers. We have had encouraging comments from recipients from time to time, but have never been certain how thoroughly the stories were aired in the radio and TV media.

Thus it was especially interesting, the day after the autumn-spring press kit mailing, to have had a telephone call from WEWS wondering if Dr. Schery would be willing to appear on a TV show ("The Morning Exchange") said to draw more heavily in the Cleveland area than "Today" or "Mike Douglas." Questions are solicited by telephone. This is an opportune way for reaching an important audience inexpensively, - - - all because a TV station took notice of one autumn press kit!

SEEDING SPECIFICATIONS GIVEN

In response to requests from the St. Louis Beautification Commission, the Lawn Institute offered suggested seeding specifications and variety choices for five categories of plantings asked about (small parks, large parks, athletic fields, service areas, berms). Reprints were sent to back up the suggestions.

GARDEN WRITER RESPONDS

Beatrice Ford, Garden Editor for the St. Joseph and nearby Missouri newspapers, has been a fan of the Institute for a number of years. She reminds us, " - - - have used much of your information for the readers of my column who live in northwest Missouri, eastern Kansas, southern Iowa and southern Nebraska."

Mrs. Ford attempted to buy new varieties on the Institute's VRB variety list, but was unable to secure them in Kansas City. She reports, "We cannot buy these seeds in Kansas City at any price, as the dealer there thinks they are too expensive, people would not buy them." This brings home the concern members have had for "explaining" the increased costs of good lawn seed. The resistance seems more at the dealer than at the consumer level.

Mrs. Ford asked particularly about three of the varieties listed, and hoped that the Institute could help her in the purchase of the same. Copies of the letter were sent to proprietors of the varieties which she named, and an explanation of the current situation was sent to Mrs. Ford.

SEED TESTING STANDARDIZATION

A persuasive plea from Dr. Everson, Iowa State University, asks that letters be sent to the Secretary of Agriculture in support of added funds for the National Seed Testing Standardization Laboratory. This laboratory was initiated in 1966 with prospects for ironing out differences in seed testing results nationally. However, personnel lost by attrition have not been replaced, and operations are inadequately funded. Dr. Everson suggests that a letter to Secretary Butz or Assistant Secretary Yeutter should request a \$300,000 appropriation, followed up with \$150,000 annually thereafter.

PRESENTATION BEFORE THE GARDEN CENTER OF GREATER CLEVELAND

"Dear Dr. Schery: We were delighted to have you on our lawn panel last evening. Any evening when the audience keeps the speakers occupied with questions has to be termed successful, which it certainly was."

--- G. W. Eliot Paine, Director

The reprints "New Lawngrasses Bring Change to Seeded Lawns," and "Summer Care of Lawns," were distributed to the audience as part of Dr. Schery's presentation.

FOR CLASSROOM USE

William A. Lincoln, Assistant Superintendent of Schools, Windsor Southwest District, Vermont, wrote, "It is our understanding that your organization provides materials for use in schools." Apparently this system uses pamphlets, etc., in vocational-type training, and "in attempting to make careers in - - - recreation fields better known and more attractive to our students." Sample reprints were sent Mr. Lincoln, with the offer to supply additional copies upon request.

INFORMATION REQUEST

Catherine Tyrrell, Research Librarian for the Information Source, requested "any material on the technology of growing and preparing seed as well as the marketing of seed." Appropriate Institute reprints were furnished.

BOOK DISTRIBUTED

With the opening of the fiscal year this quarter, renewing members were sent a courtesy copy of the revision of The Lawn Book (retitled A Perfect Lawn by the publisher). A short delay was experienced in obtaining copies, but all renewing members should by now have received their complimentary copy.

PRESS KIT APPRECIATED

From Mrs. Hazel S. Kerr, Garden Editor, of The Cape Cod Standard-Times: "We were pleased to receive the press kit for 1973. I shall be happy to use the items from time to time on our garden page which appears every Friday. . . Thank you for including us on your mailing list."

LITERATURE REQUEST

"Would you please send us pamphlets, booklets, charts, etc. on grasses, turf, and lawn that would be an asset to our Learning Resources Center." --- Linda Palmgren, Library Technician, Oakland Community College, Union Lake Michigan. A set of stories was immediately sent O.C.C.

AN APPRECIATION

"Please keep the releases coming and I'll - - - utilize them to the fullest - - - as these meaningful articles are published in future editions, you will be in receipt of tear sheets. Thanking you and with every good wish."

--- George C. Jecmen, editor, Edison Garden Club News

TECHNICAL SECTIONOHIO TURFGRASS FIELD DAY

On August 7, Dr. Schery attended the Turfgrass Field Day at Ohio State University, Columbus. Because spring and early summer was abundantly rainy, this has been an interesting year for observing turfgrass varieties under "unusually difficult" circumstances (primarily heavy onset of diseases). Dollarspot disease was rampant, and close to wiping out certain plots even of such high-rating cultivars as Merion and Nugget. Most varieties suffered some setback, the Rutgers bluegrass hybrids perhaps the least. Not a whole lot of difference could be seen between different rates and timing of fertilization, although it was noted that IBDU did not exhibit any carry-over from the previous year. Best color occurred with the most recent fertilization.

Little difference was noted between the various perennial ryegrasses on exhibit, between the several bluegrass blends (mowed 1½ inches, 6 pounds of nitrogen per year), or between the fine fescues. In the shade Pennstar and Fylking bluegrasses (in their second year) looked as good as any of the plantings, and better than most fescues (bentgrasses and ryegrasses were poor). It was said that Manhattan has been through recent years the best perennial ryegrass, and the most disease resistant; but that Pennfine this year was a little bit superior. All ryegrasses were described as more difficult to mow than bluegrass.

Fertilization late into autumn has kept Penncross bentgrass green through winter, and is currently recommended: it causes no decrease in hardiness. Elimination of tall fescue from bluegrass by heavy fertilization (especially in autumn), now seem to occur because bluegrass becomes more competitive rather than because of a weakening of the tall fescue causing its winter kill. Growth retardants showed rather little effectiveness, but it was reported that early in the season growth repression for three to eight weeks occurred with the better products, involving as much as 50 percent foliage reduction. Apparently the retardants affect root growth as well as tops, and considerable phytotoxicity occurred (up to complete browning of the turf) temporarily. Grass initially repressed was often stimulated some weeks later after "shaking off" the original treatment.

Here are some of the results and conclusions given on the mimeograph handouts (reflecting observations through 1972, but not the current heavily diseased conditions): Among bluegrass varieties, A-34, Adelphi and Nugget had the highest scores, followed closely by Merion, Cougar, Sydsport, Sodco and several coded selections. Fine fescues have not shown much difference, but Erika has performed better than most. Bentgrass plantings include vegetative golf green types, and are low-mowed (as is appropriate for creeping bents), placing the colonial types at some disadvantage. Penncross has performed well, as has Kingstown, along with such vegetative strains as Cohansey and Toronto. As noted earlier, Manhattan and Pennfine are the two perennial ryegrasses being recommended. The fine-textured tall fescues have not performed well; the "old-fashioned" Kentucky 31 and Kenwell varieties are still considered best.

There was no influence on soil infiltration rates from the use of the enzyme solution, Grozyme. In general, the more abundant the fertilization (including application in spring and summer), the better density and color with tall fescue, Kenblue bluegrass, Merion bluegrass, and Pennlawn red fescue. However, only with Merion were the low rates (3 pounds of N annually, compared

OHIO TURFGRASS FIELD DAY Continued

to 6 or 12) particularly noticeable. In the bluegrass blend studies, a Pennstar-Fylking combination had the highest desirability rating among the two-way combinations, while in three-way combinations, those containing Pennstar and Merion generally scored most highly (although the single highest score was from a Fylking-Windsor-Prato combination). Least inhibitory (after 12 weeks) to new seedings of Fylking bluegrass made periodically after a pre-emergence crabgrass herbicide application, were Tupersan and Bandane. Dacthal, Betasan and Balan had much more pronounced residual effects.

SPECIAL TURFGRASS PUBLICATION

An excellent "Proceedings" was issued for the 1973 California Golf Course Superintendents Institute, organized by the University of California. The able California technical staff, principally professors from the Davis campus and the Los Angeles area, provided about 25 broad, general, seminar-like discussions that encompassed over 140 pages even when epitomized for the Proceedings. Several movie films were shown as well.

Some of the presentations may have been overly technical for practical application by golf course superintendents, but at the same time were for the most part quite provocative of thought and new ideas. As would be expected in the arid Southwest, attention was very much focused upon irrigation and soil-plant relationships.

Dr. Madison provided the backdrop, by summarizing the history of golf turf from the casual sheep pastures of centuries ago to the highly managed turf of today. Other specialists dwelt upon problems little thought of in other parts of the country, such as the quality of water for irrigation (standard water is difficult to come by in California, and salinity quite a problem). One paper, reviewing watering, mentioned that letting the thatch dry out may release materials of nutritional value to disease organisms which then explode as an outbreak of the disease (viz. *Helminthosporium*).

An exceptional feature of Highland bentgrass was mentioned. Highland survives drought very well without patchy loss, almost all crowns recovering although other colonial bentgrasses are wiped out in patches. Soil fundamentals and new ideas on golf green construction were fully covered. The "aerification" advantage of drying-wetting cycles (analogous to freezing-thawing cycles in the North) was emphasized. Often the very measures taken to encourage turf growth lessen natural aerification.

How root growth is a separate problem from top growth, yet interrelated, was discussed. An example: "Close mowing reduces root growth and permits more radiant energy to hit the soil thereby causing increased soil temperatures. The latter in turn inhibits root growth which reduces top growth and the ability to survive droughts." Several discussions involve grass physiology, and biosphere interrelationships. Throughput systems (such as golf greens, where clippings are removed), are compared to recycling systems (where the clippings are utilized). Madison suggests that a good deal of nitrogen may be needed initially to complete a cycle, but that gradually nature develops a balance and in later years relatively little is need.

This publication was mailed to all C-5 division members of the American Society of Agronomy, and would be available to others through the Northern California Golf Association, Box 1157, Pebble Beach, Cal. 93953 (\$5.00 each).

MIDWEST REGIONAL TURF CONFERENCE, PURDUE UNIVERSITY

Turf Conference Proceedings for the 1973 Midwest Regional Turf Foundation have been issued from Purdue University. Several excellent papers are included this year, dealing knowledgeably with topics of current interest. As would be expected, a number of the papers cover matters of peripheral interest, such as officer reports, employee-club relations, and "expected" trends (such as adoption of the metric system). A few of the presentations may be of more direct interest and are summarized here.

Jim Latham, citing various "odds and ends," commented upon the tendency to "overwork" new developments, causing disappointment. He fears that expectations from new turfgrass cultivars are building too high, and that most of the new varieties are destined to follow Merion along the road of gradually increasing troubles. Holman Griffin also was cautious, emphasizing "that the best turf variety ever reproduced is little or no better when poorly maintained than the common variety - - -."

Dick Bailey, from Oregon, gave several good resumes concerning seed growing and trends in the production regions. He reviewed modern techniques that provide for nearly weed-free fields (chemical fallowing in autumn, with banded seeding under charcoal in spring, followed by diuron). He noted the increasing problems for field sanitation due to environmental concerns becoming law in Oregon in 1975. He feels that the introduction of new cultivars has been a great step forward, and mentions particularly Manhattan ryegrass (with which he has had personal concern). Bailey thinks that quality (particularly germination) standards may have to be lowered because burning restrictions may make ergot more prevalent. He is a strong advocate of blends containing several bluegrass cultivars.

Vargas, Michigan, discussed turf diseases, pointing out that the effectiveness of systemic fungicides depends upon their being absorbed through the roots (that on the foliage is quickly lost due to mowing). He notes the interrelationship of nematodes and incidence of Fusarium blight (Michigan has been a leading research center for this). He mentions the evolution of disease strains resistant to systemic fungicides, particularly instances of powdery mildew and dollarspot. He suggests alternation of systemic fungicides with contact ones. Referring specifically to Fusarium blight, the nematode Tylenchorhynchus has been implicated as predisposing the grass to attack by either of two Fusarium species. Benomyl and Topsin-M have proven effective against the nematodes.

Louis Miller, Louisville Country Club, gives some "hard and fast" times and treatments for familiar turf diseases. Leafspot is inevitable "from April 19 to May 22," and Zineb is an economical control. He must not have reckoned with 1973 when saying, "Dollarspot is almost non-existent and is really no problem at all." He expects brownpatch from June 8 to June 19 and feels he has never seen an infestation that could not be controlled with PMAS plus Thiram. Pythium comes from June 8 to September 25, and is controlled with Koban or Tersan SP (but one cool night in the low 60's will knock the fungus more effectively than a fungicide). Fusarium attacks under high humidity but low rainfall, and can be confused in its initial stages with other ills (even sod webworm). Benomyl is the only cure he has found.

Keigley reviews his sod production operations from the early days of common bluegrass to a single elite product today (consisting of a blend of Merion, Fylking and Sodco bluegrasses). Pesticide laws are reviewed by Hutton

MIDWEST REGIONAL TURF CONFERENCE Continued

of Purdue, and the observations on some of the misinformation being released on pesticides is covered by Weber of the Indiana Farm Bureau (with examples cited). Robey of Purdue discusses means for grooming athletic fields, and along with Freeborg discusses football players' footing on both zoysia and bluegrass (now one, now the other, is better, depending upon the maneuver). Familiar reviews of the PAT and Purr-wick irrigation systems round out the volume, along with a discussion of bermudagrass for athletic fields in the South (by Dr. Gilbert of North Carolina).

1973 TURF RESEARCH ANNUAL

The Park Maintenance magazine customary annual review, "1973 Turf Research and Irrigation Annual," the July issue, was more expertly handled (and confined to meaningful reports) than have been previous wide-ranging approaches by guest editors. Editor Madisen evidently handled the reviews:

Reports on disease came from Illinois, Washington and Rhode Island. Systemic fungicides seem to be effective for prolonged control of dollarspot.

Of more interest to members are probably the several discussions of lawn-grass cultivars. Dr. Funk, Rutgers, outlined the parentage of Bonnieblue, which inherited its exceptional color and long season from the Bellevue parent, and good leafiness during seedheading and resistance to stripe smut from its Pennstar parent.

Purdue ratings for leafspot damage in the springs of 1970 and 1972 were given in tabular form. Rating best in 1970 were Sodco, Pennstar, Sydsport and Nugget, with Fylking and Merion close behind; in 1972, Sodco, Nugget, Merion, Pennstar, Sydsport, Fylking and several common types showed good leafspot tolerance.

Several rating charts are given for Missouri. "Quality" ratings for 1970, 1971 and 1972 showed Warren A-20 and A-34 best, followed closely by Fylking, Sodco, Bonnieblue, Sydsport, Prato, and so on; Pennstar, Merion, Adelphi, Arista, and Nugget were considerably farther down the scale. The best blend consisted of Fylking-Merion-Pennstar. Although differences were not significant, the fewest "diseased spots" (presumably due to *Fusarium*) were on Sodco, Windsor, Fylking, Merion, Park, and various blends of these and other cultivars. However, Dr. Dunn adds that blends containing Park and South Dakota common have been unsatisfactory because of the summer disease.

Excellent control of sod webworm was achieved in Indiana with diazinon, dursban, dyfonate; a few other of the 21 chemicals tested showed promise, too.

Michigan (wind tunnel) rating of bluegrass cultivars for water demands showed: very low demands -- Prato, Cougar, Delta, Kenblue; low demand -- Park, Pennstar, Nugget, Windsor; intermediate demand -- Merion, Galaxy, Monopoly, Baron; high demand -- A-34, Newport, Fylking; very high demand -- Sodco, Sydsport.

Several reports considered growth retardants, most of which reduced clippings and gave reasonable inhibition on pure stands, but sometimes were phytotoxic.

1973 TURF RESEARCH ANNUAL Continued

In weed control, glyphosate appeared promising for taking cool-season grasses out of dormant bermuda. A couple of newer coded materials seem promising for crabgrass prevention, although apparently about on a par with conventional products such as bensulide, DCPA, siduron and terbutol.

COMPLEXITY OF TURF DISEASE CONTROL

How difficult it is to make meaningful fungicidal recommendations for non-professionals such as homeowners, is pointed up by some of the comments from pathologists and turf researchers during the Second International Turf-grass Conference Phase I Tour.

At the University of Rhode Island, Dr. Jackson reported no benefits from phosphorus or potassium in disease prevention, yet Dr. Hull (from a physiological viewpoint) reported much heavier stripe smut invasion of Merion at high fertility levels unless P & K were included (he wanted four pounds of each /M).

Jackson said that benomyl is great for controlling stripe smut and dollar-spot (although there is some evidence of resistant races of smut now), while Dr. Couch down in Virginia said that the systemic fungicide was useful for Fusarium and stripe smut (but not good for dollarspot).

Jackson recommends a heavy rate of benomyl (8 oz. /M), preferably in combination with PCNB (also at 8 oz.); Couch prefers 1 oz. each few weeks, and reports considerable phytotoxicity even then when hot weather comes and fertilization tapers off, this due to residual fungicide in the plant that causes yellowing. The yellowing can be corrected with applications of nitrogen and iron, and some grasses (Highland bentgrass, for example) are more susceptible than others (Penncross creeping bentgrass, for example).

Jackson advocates an autumn drench (stripe smut is spread through the soil), and is afraid of encouraging development of resistant fungus strains at marginal rates; Couch seems to favor continuous light and steady application and is more fearful of side affects than of the fungus!

When the experts express such diversified viewpoints concerning something so negative as disease is in the first place, it becomes difficult to advance intelligible recommendations for the public. Furthermore, all of the experts seem to agree that control of one disease can intensify another. For example, use of benomyl to control stripe smut brings increased incidence of leafspot, even on purportedly resistant varieties such as Merion.

FAIRY RING CONTROL

Research conducted in California, reported in the June HortScience, indicates that fairy ring can be controlled through chloropicrin injections in sandy soils. The technique was not successful on heavy (clay) soils. Both grass and dichondra are reasonably tolerant of chloropicrin, which was injected into the soil with a "Fumigun" (ejects the fumigant about six inches deep; spacings were a little more than a foot apart). Only small and temporary injury was noted to the turf at point of injection. The lawn should be thoroughly irrigated before treatment, since chloropicrin is more effective in moist soil. Treatments stopped fairy ring manifestation for two years, including mushroom formation.

GRASS FAMILY PHYSIOLOGY

In recent years there has been much interest in the 3-carbon and 4-carbon cycles of energy production in plants. Both systems are found in the grass family. A study indicating relatively easy cycle identification in grasses is discussed by Smith and Brown, in the American Journal of Botany, July, 1973. The 4-C system, known as the Kranz syndrome, is characteristic of many warm-climate plants, and occurs consistently in about half of the grass family tribes. Bermuda, centipede, st. augustine, zoysia; many of the weedy summer annuals (such as crabgrass and foxtail); and most prairiegrasses (i.e. blue-stem and gramas), are characterized by the Kranz syndrome.

On the other hand, the bentgrasses, ryegrasses, bluegrasses, fescues and similar important northern seeded lawngrasses fall in the "non-Kranz" category. The authors speculate that the Kranz syndrome is an adaptation to high temperature and high light intensity, and represents (in certain environments) a more efficient mode of photosynthesis. They believe that it arose under arid, tropical conditions early in the evolution of the grass family.

ROOTING STRENGTH OF BLUEGRASSES

At VPI, sods of a number of bluegrass cultivars were placed over wire screens above a rooting medium, and after six weeks the force needed to lift the sod was measured. A-20 rooted most strongly, and Windsor least. Adelphi, Merion, Pennstar, Fylking and Sodco ranked in that order not far behind A-20. Nugget was intermediate, Kenblue and Newport not a whole lot better than Windsor. The results were reported at the September, 1972 Field Day.

WEEDS ACQUIRE IMMUNITY

Radosevich and Appleby, July-August Agronomy Journal, discuss biotypes of groundsel sensitive to and resistant to triazine (simazine-type) herbicides. Because of physiological differences in the resistant strain, no chlorotic symptoms (and eventual death) occur. Evidence accumulates that weeds, like insects and pathogens, develop biotypes resistant to pesticides that were once effective.

SYNERGISM ?

The July Weed Science reported an instance of one herbicide (dalapon) which is normally injurious (to certain trees) being innocuous and even beneficial if combined with another herbicide (atrazine or 2,4-D). The research was by Newton and Overton, Oregon. Similarly, study by Chang et al, Ontario, reported that an acetamide herbicide nullified EPTC injury to corn. In still another study by Hamill and Penner, Michigan, the insecticide carbofuran interacted to prevent alachlor injury to barley.

It appears that various pesticides in combinations may exhibit unexpected added benefits, a principle that should be equally as applicable to lawn treatments as to agricultural crops. A new era of synergistic pesticide compounds may be foreshadowed?

ABOUT NURSEGRASSES

Information was given out at the September, 1972, VPI field day, confirming that perennial ryegrasses are less competitive than annual ryegrasses against the permanent grass, but just as effective a groundcover. No bio-toxic substances were noted in ryegrass seed. Other "nursegrasses" (principally red-top and fine fescue) are less competitive to bluegrasses than was ryegrass, but gave little groundcover protection beyond bluegrass alone. On a PLS basis, it is suggested that no more than 5 percent ryegrass be included with Kentucky bluegrass. Bluegrass is more vigorous in autumn than in spring. Low clipping reduces competition from the nursegrass. Bluegrass, of course, makes the strongest sod, but deeper rooting is obtained when perennial ryegrass is included in the mixture. The report makes a sound case for using perennial ryegrass rather than other nursegrasses for quick cover when needed.

NITRIFICATION CHANGES WITH ECOSYSTEM AGE

Research by University of Oklahoma investigators, reported in the August issue of the American Journal of Botany, indicates that as vegetational stands (including grassland) mature, nitrification lessens. Quite possibly the disappearance of the nitrifying organisms is due to the accumulation of tannins, which increase in the soil under maturing vegetation. If this be a general trend in nature, it suggests that older "tired" turfs may need proportionally greater nitrogen fertilization than newly planted and immature swards.

NITROGEN FERTILIZER STUDY IN CALIFORNIA

The spring 1973 issue of California Turfgrass Culture carries an interesting review by Gowans and Johnson on the performance of differing nitrogen sources in the establishment of turf on sand that was dredged from San Francisco Bay in a reclamation project. This "soil" was 99 percent sand, mostly of a coarse nature, very infertile. The need was particularly for long-lasting sources of nutrients, and immediately soluble types were clearly inadequate unless repeatedly applied. Manhattan perennial ryegrass was the cover grass.

Under these stringent conditions, with almost no nutrient holding power in the "soil," only plastic coated fertilizers held up into summer, following a previous September treatment. UF was somewhat longer enduring than IBDU and sewage sludge, about on a par with chicken manure. Under such severe conditions obviously repeat applications should be made, at least within a few months of the original fertilization, even with long-lived materials.

GRASS RESPONSE TO SULPHUR

Acid Texas soils responded to sulphur treatments with increased production of bermudagrass according to research reported in the July-August Agronomy Journal by Landua, Swoboda and Thomas. Yield increased as much as 30 percent. Symptoms of sulphur deficiency are quite similar to those for nitrogen. Sulphur has long been assumed as adequate for good grass performance, but increasingly (especially in the South) response has been noted to sulphur applications.

RHODE ISLAND RECOMMENDATIONS

Bulletin 178, "Grasses for Lawns," by Skogley and Hurley, was revised in 1972. It does not avoid "naming names" as these authors see the New England turf situation.

Kentucky bluegrasses, fine fescues and colonial bentgrasses are recommended as the permanent home lawn species. Perennial ryegrasses are still classed among the "Grasses for Temporary Lawns," although new varieties are stated to have improved qualities including durability. Other species, such as creeping bentgrass and velvet bentgrass, are listed as "Special-Purpose Grasses."

Merion, Fylking, Pennstar and Baron bluegrasses are accorded individual discussions; Jamestown, Highlight and Pennlawn fescues; Exeter and Holfior bentgrasses; Manhattan, NK-100, Pelo and Norlea perennial ryegrasses; Kingstown velvet bentgrass.

Minimum standards for seed mixtures call for 80 percent Kentucky bluegrass and fine fescue, 20 percent perennial ryegrass, for sun; for shade, 65 percent fine fescue and Poa trivialis, 15 percent Kentucky bluegrass, 20 percent perennial ryegrass and a velvet bentgrass. For a "bentgrass lawn," 10 percent colonial bentgrass, 70 percent Kentucky bluegrass and fine fescue, 20 percent perennial ryegrass, are suggested. Still other combinations are advocated for "poor soil" (high in fine fescue), etc.

NOVEL SEED PROTECTION

New York's Food and Life Science Quarterly, April-June, 1973, carries an interesting review, "Protects Seeds from Deterioration." Fungicides, insecticides, growth regulators, and other chemicals are dissolved in an organic solvent before absorption by seed. Deterioration and loss of vigor have been prevented, even with such susceptible types as onion and lettuce. Intentionally damaged seeds hold up well following a suitable permeation treatment. Hormonal controls have successfully induced and released germination upon proper "cue." Two of the organic solvents found successful are acetone and dichloromethane. Apparently permeation is ordinarily achieved by soaking the seed for 5 minutes to 24 hours in the organic solution.

PENNCROSS WATER USE

Research by Shearman and Beard, Michigan, on the way treatment influences the rate of water use with Penncross bentgrass, was reported in July-August Crop Science. Greater light intensity increased the rate of water use, as well as stomatal density. Grass preconditioned at a low temperature showed a lower rate of water use than that grown at high temperature, and reduced stomatal density. Turf with slack irrigation showed more stomates than that watered frequently. The more frequent and higher the mowing, the greater the rate of water use (undoubtedly linked to total leaf area and adequacy of root development). The more the nitrogen fertilization, the greater the water use (again correlated with greater leaf width and plant growth). Surprisingly, the greater the stomatal density, the less the water use!

LAWN DISEASES SERIOUS THIS SUMMER

An August "newsletter" from Virginia Polytechnic Institute confirms for Virginia what we have been seeing in Ohio during this summer, - - a serious outbreak of diseases that are normally mild (for example, dollarspot on Merion and Nugget Kentucky bluegrasses). In many cases several pathogens attack.

Dr. Houston Couch sites twelve major turfgrass diseases active this summer, in all parts of Virginia at all elevations. Included are various forms of brownpatch, leafspot, Pythium and Fusarium blights, dollarspot, red thread, rust, etc. Ruse has attacked both Manhattan and Pennfine ryegrasses, as well as being epidemic on zoysia in Virginia.

Couch feels that the amount of water used with a systemic fungicide (i.e. whether a "drench" or a "spray") is relatively immaterial. He sees no particular advantage to soaking such a fungicide heavily into the soil. He remarks on another systemic "blackmark", reported benomyl toxicity to earthworms (which might aggravate thatch formation?).

NEW VARIETY INTRODUCED

An excellent review of Emerald creeping bentgrass appeared in the July issue of Weeds Trees and Turf, authored by Dr. Gerald Pepin of International Seeds. History, adaptation and evaluation to date are all succinctly discussed by Pepin. Emerald has just recently received acceptance by the Lawn Institute Variety Review Board, and it is good to see sound promotion being launched.

RYEGRASS IMPROVES BERMUDA PATCHING

Robert Burns, Georgia, reports in the July-August Agronomy Journal on experiments showing the advantage of ryegrass "overseeding" (either below or on top) of bermudagrass patches made to damaged athletic field sod during autumn play. The bermuda patches adhered 100-200 percent better when ryegrass seed was included than when depending solely on rooting of the bermuda.

SELECTIVE CONTROL OF A PERENNIAL GRASS

Shriver and Bingham, Virginia, report in the January-February Crop Science, on the use of bromacil for selectively freeing bluegrass from orchardgrass. Bluegrass is not permanently injured from precise rates that prove lethal to orchardgrass. Bromacil has also been used as a seedbed treatment to control annual bluegrass without injury to fine fescue or colonial bentgrass seeded later.

INDUCED SEED DORMANCY

Voigt, reporting in January-February Crop Science, notes that dormancy can be induced in Weeping Lovegrass by cool temperatures at an early (imbibition) stage of sprouting. Perhaps this sort of natural defense can explain delayed sprouting with other species?